

**Notice of Allowability**

Application No.

10/716,772

Examiner

Nghia M. Doan

Applicant(s)

NEVES ET AL.

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2825

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Application filed on 11/19/2003 and Applicant amended filed on 10/31/2005.
2. ☒ The allowed claim(s) is/are 1-21.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.


**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
  - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

  
**VUTHE SIEK**  
 PRIMARY EXAMINER

### **DETAILED ACTION**

1. Responsive to communication application 10/716,772, Amendment filed on 09/19/2005. Claims 1-21 are pending.

Claims 1, 3-5, 12-13, 18, and 20-21 have been amended.

### **EXAMINER'S AMENDMENT**

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with attorney James Cioffi, Reg. No. 51,564 on December 5, 2005.

The application have been amended as following:

As claim 12, line 8, before "predetermined rules", inserts "a first".

As claim 12, line 8, "predetermined rules", changes to "predetermined rule".

As claim 12, line 9, after "timing independence" inserts "of the critical paths".

As claim 12, line 9, before "geometric independence" inserts "a second predetermined rule regarding".

As claim 12, line 10, after "endpoint graph" inserts "wherein said first predetermined rule requires that all critical paths associated with given endpoint are

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assigned to a same sub-set of paths and said second predetermined rule requires that all overlapping critical paths are assigned to a same sub-set of paths”

As claim 20, line 9, before “predetermined rules”, inserts “a first”.

As claim 20, line 9, “predetermined rules”, changes to “predetermined rule”.

As claim 20, line 10, after “timing independence” inserts “of the critical paths”.

As claim 20, line 10, before “geometric independence” inserts “a second predetermined rule regarding”.

As claim 20, line 11, after “endpoint graph” inserts “wherein said first predetermined rule requires that all critical paths associated with given endpoint are assigned to a same sub-set of paths and said second predetermined rule requires that all overlapping critical paths are assigned to a same sub-set of paths”

### ***Allowable Subject Matter***

3. Claims 1-21 are allowed.

4. The following is an examiner’s statement of reasons for allowance: the prior art does fairly teach or suggest that “A method for optimizing design of a microelectronic circuit using a plurality of processors, the design having a plurality of timing paths, a subset of the timing paths being characterized as critical paths, each of the timing paths having an endpoint, the method comprising the steps of:

constructing a list of the critical paths;

constructing a set of endpoints of said critical paths;

partitioning said set of endpoints in accordance with a first predetermined rule regarding timing independence of the critical paths and a second predetermined rule regarding geometric independence of the critical paths, thereby defining sub-sets of endpoints and critical paths associated therewith,

wherein said first predetermined rule requires that all critical paths associated with a given endpoint are assigned to a same sub-set of paths and said second predetermined rule requires that all overlapping critical paths are assigned to a same sub-set of paths; and

optimizing timing of the critical paths, wherein said optimizing is performed in parallel by the processors, each of the processors optimizing timing of the critical paths associated with the endpoints in respective sub-sets, and

the microelectronic circuit includes a multiplicity of components, and said method is performed after placement of the components in the design".

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nghia M. Doan whose telephone number is 571-272-5973. The examiner can normally be reached on 8:30-5:30.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Smith can be reached on 571-272-1907. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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Patent Examiner  
AU 2825  
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**VUTHE SIEK**  
PRIMARY EXAMINER



2/12

Approved  
 J.S.  
 12/24/05

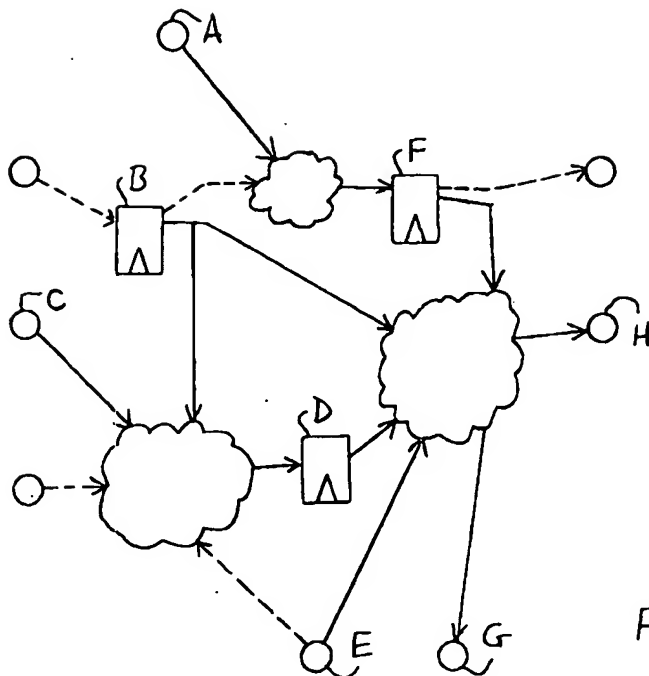


FIG. 2A

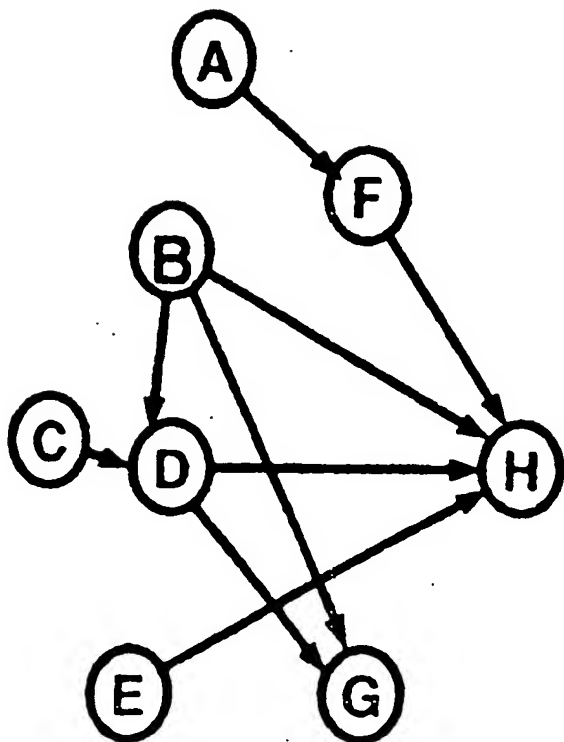


FIG. 2B

Vertex	Adjacent vertices
A	F
B	D G H
C	D
D	H G
E	H
F	H
G	
H	

FIG. 2C